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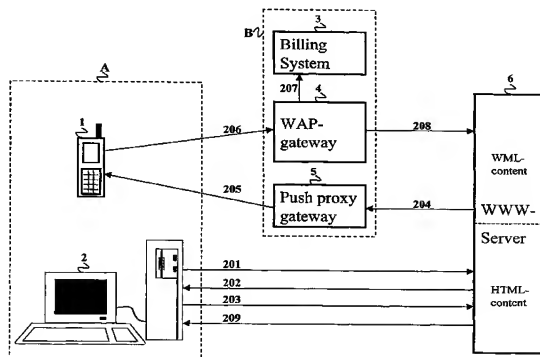
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(54) Title: METHOD FOR CHARGING FOR INTERNET CONTENT OR SERVICES SUBJECT TO A CHARGE



(57) Abstract: The invention relates to a method for charging for Internet or Web content or a service subject to a charge. Methods of this kind are utilized when providing Internet services or content subject to a charge. The invention is based on the customer giving a charging authorization to the service provider with the aid of a terminal, for example, a WAP mobile station. Having found a service of interest from the Internet, the customer registers and authorizes the service provider to send them a charging authorization form. After registration, the customer can use a Web browser to log in to the service provider's Web service and state that they wish to use a specific service or content. The service provider then sends an electronic charging authorization form to the customer's mobile station or wireless terminal, on the basis of the registration that has previously taken place. The customer selects either the accept or reject alternative from the form and returns the form to the service provider. If the response in the returned form is positive, the service provider supplies the desired Internet content or performs the desired service. Charging takes place in such a way that the mobile operator, whose connection is being used, identifies the information in the returned charging authorization form and bills the customer on the basis of this information. The method can be applied, not only to Web, but also to Internet services. In the method according to the invention, other terminals can also be used. Other entities besides mobile operators can also apply the invention.

Method for Charging for Internet Content or Services Subject to a Charge

The present invention relates to a method, according to the preamble of Claim 1, for charging for Internet content or services subject to a charge. In such a method, charging
5 authorizations for the use of content or services in the Internet subject to a charge are collected, so that these can be transferred to the billing system of a mobile operator. The charging authorizations are defined with the aid of a separate terminal, such as a mobile station, of the customer, independently of the terminal used to create the Internet connection.

10 Methods of this kind are utilized, when providing Internet services subject to a charge. The said Internet services, can be, for example, the provision of content, such as text, images, audiovisual material or other intangible goods, or the supply of tangible goods. The term Internet service provider refers to an entity that provides Internet services.

15 In methods according to the state of the art, charging is mainly based either on the use of service numbers subject to a charge, or on credit-card billing.

When using a service number subject to a charge, the person who intends to pay for
20 content on the Internet must pay the charge by calling a special service number of the service provider, which is reserved for this purpose. In Finland, such numbers are, for example, 0700 numbers. The caller is typically charged FIM 20 - 60 /call, in addition to the local network charge. The caller is billed for the price of the call in their telephone bill.

25 In return for the call to the telephone number, the caller can be provided with, for example, a username and password, by means of which they can access the content or service subject to a charge, through the appropriate website. The username and password can be for a single session, so that validity of the username and the password ends when
30 the user exits from the website. The username and password can also be valid for a specific period of time, for example, for 6 hours from the time of the call, or perhaps until the end of the current day. In certain solutions, the user continues to have the same username and password, but the balance of their account diminishes as they pay for

Internet services subject to charges, so that they must regularly place additional funds in their account, for example, by making a service number call worth FIM 60.

In addition, there are solutions based on credit-card billing, in which the user gives their credit-card number when they wish to use Internet content or services subject to a charge. These solutions operate in exactly the same way as in Internet e-stores, except what is being purchased is not a concrete product, but a service.

The state of the art also includes methods, in which the sum charged is added to the telephone bill of the subscriber connection used to access the Internet connection over a telephone network. This method can be used, if the Internet connection used by the customer has been created with the aid of a telephone network. The customer is connected, over the telephone network, to an Internet operator, who has a fixed connection to the Internet. The Internet operator supplies Internet services, both those that are free of charge and those that are subject to a charge, over the telephone network to the customer, who pays a specific sum for the telephone connection, in addition to a local network charge. If the customer uses services subject to a charge, the related charges are charged by adding them to the customer's telephone bill.

In the case of service-number charging, drawbacks of the state of the art are the complexity and inflexibility of the payment transaction. The customer personally must always call the service number and make a note of the new username and password. This makes event-based billing for small payment transactions of a few Finnish markkas impossible in practice. On the other hand, a call charge of, for example, FIM 60 for a 24-hour right to use a specific content or service may be too much to entice all potential users, if the users are only initially curious enough to try out a service for a few Finnish markkas. It is also possible that a user may pay FIM 60 unnecessarily for the right of use, if for some reason they have, for example, problems in getting their home PC to access the desired content or service on the Internet. The problem may be, for example, that the user's PC unexpectedly does not have the correct software, or that the connection to the Internet is too slow to be able to use the content. Numbers subject to a charge are also not suitable for charging large sums, for example sums greater than FIM 100, because the user is charged on the basis of charge pulses in the service numbers and the reliable transmission of large numbers of pulses in a telephone network demands

long calls. FIM 1/sec. is often regarded as being the limit. Thus, a call of at least 1 minute and 40 seconds would be needed to charge for a call charge of FIM 100.

5 Solutions based on credit cards, however, have the drawback of questionable data security. Many users are unwilling to give their credit card number over the Internet, particularly in the case of services provided from abroad. For its part, the service provider may suspect whether the credit-card number given by the user exists at all, and, if it does, whether the number is really the user's or has been obtained by some dishonest means. In addition, the service provider does not receive a conventional credit-
10 card receipt signed by the customer, thus leaving the service provider with no concrete receipt as evidence of authorization to debit the customer's account. If the customer disputes having authorized the service provider to debit their credit-card account, it is difficult for the service provider to prove that authorization was indeed given.

15 In charging methods, in which the Internet operator charges the customer for Internet services subject to a charge, by adding the sum to be charged to the customer's telephone bill, there is the problem that the method can only be used if the Internet connection is created with the aid of a telephone network. In addition, when using this method, the person charged is always the natural or legal person from whose subscriber
20 connection the Internet connection is created. Using this method, a customer cannot easily use Internet services on their own account from public terminals, such as through computers reserved for Internet use in a public library, a friend's computer, or their employer's computer. The customer can solve part of the problems associated with this method by connecting their wireless mobile station, for example, to their friend's or
25 employer's computer and using the wireless mobile station to create an Internet connection. In that case, the problems are the relatively high cost of a mobile subscription and possibly the slowness of the data transfer.

30 The invention is intended to eliminate the defects of the state of the art disclosed above and for this purpose create an entirely new type of method for charging for Internet services subject to a charge, which is both flexible and secure. In addition, the charging method should be independent of the type of Internet connection, as well as independent of the ownership relationships of the telephone, mobile station, or Internet connection

used to access the Internet services.

The invention is based on the customer giving the service provider charging authorization with the aid of a mobile station or wireless terminal. When the customer
5 finds an interesting service on the Internet, they register with the aid of their mobile station or wireless terminal. During registration, the customer gives the service provider authority to send them a charging authorization form. After registration, the customer can use a Web browser to log in to the service provider's website and state that they wish to use a specific service or content. In practice, logging in takes place, for example,
10 by the customer entering, in a text field in the website, the subscriber number of the mobile station or terminal connection that they are using. On the basis of the registration that has been carried out previously, the service provider then sends an electronic charging authorization form to the customer's mobile station or wireless terminal. The form states the title and price of the service in question and possibly other information,
15 such as the period of use of the service at the price in question. The customer selects either the accept or reject alternative from the form and returns the form to the service provider. If the reply in the returned form is positive, the service provider supplies the desired Internet content or implements the desired service. Charging takes place by the mobile operator, whose connection the customer in question uses when registering and
20 receiving and sending the charging authorization form, identifying the information in the returned charging authorization form, i.e. the price to be charged and the acceptance or rejection of the charging authorization. On the basis of this information, the mobile operator charges the customer in connection with the mobile station bill and sends the payment (or part of the payment, depending on the agreement) to the service provider.
25

Usually the customer registers with the service of an individual service provider only once, after which they can repeatedly log in to the Internet-site of the service provider in question and order services.

30 Thus, by means of the invention, a mobile operator can provide services, on the one hand in the form of a billing service to service providers, and, on the other hand, in the form of a charging service to mobile station or terminal customers.

In preferred embodiments, a mobile station supporting WAP or UMTS technology, for example, acts as the customer's wireless terminal.

5 More specifically, the method according to the invention is characterized by what is stated in the characterizing portion of Claim 1.

Considerable advantages are gained with the aid of the invention.

10 The invention permits even very small sums to be charged in a cost-effective and user-friendly manner. If the user has once registered with the service provider's service using their mobile station or wireless terminal and entered the subscriber number of their own connection in the entry field on the Web page, they can be continuously sent requests to confirm small, e.g., FIM 1 - 5 payments. From the point of view of a service provider of an Internet service, this opens completely new possibilities, because it is now possible to
15 easily charge FIM 3 for listening to a single piece of music, for instance. If the user wishes to listen to more pieces, a charging authorization form for this purpose always comes to the user's mobile station or terminal.

20 Thus, the user can also be easily charged for time-based Internet content. For example, viewing a music video could cost FIM 5 for every 15 minutes. In this case, always when a period of 15 minutes has passed, the video stops until the user has approved a new charging authorization form.

25 On the other hand, the invention permits the transaction-based charging of even large sums. For example, it would be completely impossible to charge for concert tickets (about FIM 250/ticket) using charging pulses, but it would be very easy using the method according to the invention.

30 Besides payment being flexible, the charging method according to the invention is very easy and simple for the user. If a user has once used their terminal to register with the service provider's service, and has logged in to the Internet service in question, they need do nothing more than press a key to accept the incoming charging authorization forms. It is also natural for the price to appear on the form in the terminal every time that

acceptance is required, allowing the user to compare this price with the price they have seen on the Web page and check that the prices are the same. This will do much to create a sense that no attempt is being made to mislead the user in connection with the service. Each accepted payment can also be itemized on the user's mobile terminal bill, so that
5 the user can easily check that the bill is correct.

The invention also eliminates the problems arising in credit-card payments, because in this method the mobile operator guarantees, to the user, that the charges are correct and, to the service provider, that the payments will certainly be made. The method can also
10 be used if the Web content server is located abroad or the service provider is a foreign company, provided that the mobile operator has made an agreement with this service provider. In turn, this characteristic makes a considerably wider range of services accessible to users than Internet contents limited to only their country of residence.

15 In the following, the invention is examined with the aid of an example and with reference to the accompanying drawings. In the example, the method is divided into two sub-methods, which together form an example of the application of the invention. The sub-methods are depicted in Figures 1 - 2.

20 Figure 1 shows a block diagram of the registration to a customer to the service provider in question, by means of a mobile station supporting WAP technology.

Figure 2 shows a block diagram of a registered customer ordering an Internet service subject to a charge, and the sending and processing of the charging authorization form.

25 For reasons of clarity, the operation of a digital mobile network, for example, a GSM or UMTS network, is not explained in detail in the example. If the invention is implemented in a GSM network, several network elements, which are not referred to in the example, relate to the totality. Such elements include a GMSC (Gateway Mobile
30 Switching Centre), a BSC (Base Station Controller), and a BSS (Base Station System). In addition, the operation of the Internet network and the information network of the mobile operator are also not explained in the example. The details of the operation and implementation of these networks are not essential from the point of view of the

invention. In addition, one versed in the art can be assumed to be familiar with the operation, implementation, and use of the networks in question, and of their application to the extent required by the invention.

5 The equipment of the service provider is also not itemized and defined in detail in the example, nor are the operations of the equipment of the service provider examined in detail, as the service provider has considerable freedom to choose the manner of implementing the component in question.

10 In the example, data transmission takes place through three different data networks. In the example's operations, which are numbered with the reference numbers 103, 106, 107, 206, and 205, data transmission takes place through the mobile network of the mobile operator used by the customer. The data transmission can also take place partly through the mobile network of some co-operating partner of the mobile operator. In the
15 example's operation number 207, data transmission takes place through the data network of the mobile operator used by the customer. In example's operations numbers 101, 102, 104, 105, 108, 201, 203, 209, 208, and 204, data transmission takes place through the Internet network. The above numbers are arranged according to the sequence in the
20 Figures.

20 The term WAP gateway server refers to a device or equipment, which permits Internet services to be browsed from a mobile station supporting WAP technology. The WAP gateway server transfers data from the Internet to the WAP mobile station, on the basis of a request sent from the WAP mobile station.

25 The term push-proxy gateway server refers to a device or equipment, which permits data in WML format to be sent to a mobile station supporting WAP technology. The sending of the data does not require a request from the mobile station in question for the data to be sent.

30 The invention can be applied, for example, in a system, to which a WAP terminal, a WAP pool, a WAP gateway, a push-proxy gateway, a short message centre, the mobile operator's billing system, a Web server, and a content server are connected. In such a

case, the WAP terminal provides the user with an easy and simple interface for placing and confirming orders. The A subscriber number of the GSM telephone is picked up from the WAP pool, in order to prevent possible misuse. The WAP gateway, for its part, converts the TCP/IP carrying the http protocol into a form understood by the WAP
5 terminal, for example, into a UDP/IP or a WDP (the lowest layer of the WAP protocol stack, which communicates with a short message service centre SMSC). The SMSC is, in turn used, for example, if short messages are used over the air in place of a CSD. In most cases, the use of short messages can be more advisable than the use of a CSD, due to the number of messages, provided that the WAP gateway and the WAP terminal
10 support SMS. The application logic is located in the Web server, which communicates with the content server and the billing system. Billing is, in turn, preferably implemented through the mobile operator while money is transferred from the operator to the content provider, by means of a prearranged income transfer.

15 operations such as the following can be connected to charging implemented with the aid of the above system:

- The user uses their WAP phone to activate a so-called listener in the service provider's service, which begins to wait for the user's order for a page, subject to a charge, from the
20 content server.

- The user enters the subscriber number of their own mobile station in the writing field on the Web page and clicks the Web link subject to charge, as if to place an order for the content in question.
25

- The form with its contents is transmitted to the listener, which records the request. The listener checks that the request coming from the Web server can be approved, i.e. that the A subscriber number given on the form corresponds to the WAP subscriber number activated in the listener.
30

- The content sent by the content server is temporarily stored in the cache memory of the service provider's content server, until the entire payment transaction has been accepted.

- The listener uses WAP push-technology to send the WAP terminal a form, which tells the WAP user the title and price of the content, and in which the WAP user is requested to confirm the payment transaction (accept/reject).

5 - The user accepts the transaction, for example, by ticking the 'I accept' box of the form and presses the send key.

10 - The WAP gateway transmits, in an http request, the WAP connection's A subscriber number and the contents of the acceptance form to the service provider's listener. The WAP gateway makes a ticket for the transaction subject to a charge and transmits it to the billing system of the mobile operator (the bill goes to the customer through this).

15 - The listener detects that the 'payment transaction' has succeeded and gives permission to the proxy to transmit the Web content subject to a charge to the user's Web browser.

20 - It would be desirable to obtain a succeeded/failed acknowledgement of the Web transaction. The system should be preferably equipped with a mechanism that allows the Web user to try again after a failed transaction. Thus, the Web user can make a new attempt to obtain the service they desire.

25 The method shown in Figure 1 comprises the equipment A used by the customer, the equipment B used by the mobile operator, and the Web server 6 used by the service provider. The equipment used by the customer comprises a mobile station 1 supporting WAP technology and a computer 2, which is equipped with a Web browser and connecting device and is connected to the Internet. The equipment B used by the mobile operator comprises a billing system 3, a WAP gateway server 4, and a push-proxy gateway server 5.

30 With the aid of the method of Figure 1, when the customer uses a mobile station supporting WAP technology to register as a customer of the service provider, the following operations are carried out:

101) The customer uses the Web browser of their computer 2 to browse for a Web

service that interests them, from the service provider's Web server 6.

- 5 102) The service provider's Web server 6 sends instructions on how to enable browsing of the part of the Web service that is subject to a charge over the Internet to the customer's computer, which instructions can be read using the Web browser of the customer's computer 2.
- 10 103) The customer acts according to the instructions received in operation 102. The customer selects, in the WAP browser of their mobile station 1, the WML language (wireless application protocol) Website notified by the service provider, in which case the mobile station 1 sends a request to the WAP gateway server 4.
- 15 104) The WAP gateway sever 6 forwards the request to the service provider's Web server 6, using, for example, an http.message transmission.
- 105) The Web server 4 sends the requested WML language WAP page data to the WAP gateway server 4.
- 20 106) The WAP gateway server 4 sends the WAP page data to the customer's mobile station 1. On the WAP page is a request for the customer to approve the use of the charging method according to the invention.
- 25 107) The customer agrees to the use of the charging method according to the method by means of the WAP browser of their mobile station 1, in which case the WAP browser sends the data relating to the agreement to the WAP gateway server 4. The data relating to the agreement also includes the subscriber number of the customer's mobile subscription.
- 30 108) The WAP gateway server 4 forwards the data relating to the agreement to the service provider's Web server 6. The Web server records the data relating to the approval of the registration/transaction in question.

Like Figure 1, the method shown in Figure 2 comprises the equipment A used by the

customer, the equipment B used by the mobile operator, and the Web server 6 used by the service provider. The equipment used by the customer comprises a mobile station 1 supporting WAP technology and a computer 2, which is connected to the Internet and equipped with a Web browser and connection devices. The equipment B used by the
5 mobile operator comprises a billing system 3, a WAP gateway server 4, and a push-proxy gateway server 5.

When transmitting Web services subject to charge, with the aid of the method of Figure 2, the following operations are carried out:

10

201) Using the Web browser of their computer 2, the customer selects the service provider's website and selects the Web service subject to a charge that they desire. The Web browser sends the data relating to this selection to the Web server 6.

15

202) The Web server 6 sends data to the customer's computer 2, on the basis of the data received in operation 201. The Web browser of the customer's computer 2 displays a Web page, according to the received data, in which the customer is requested to log in to the service subject to a charge.

20

203) The customer logs in by entering the subscriber number of their own mobile subscription in the text field of the Web page on the Web browser of their computer 2, and by sending the text field's data to the Web server 6, by means of the Web browser.

25

204) The Web server 6 compares the subscriber number received in operation 203 with the registered subscriber numbers in the database and confirms that the customer has registered previously and given permission for sending of charging authorization forms. The Web server 6 prepares a WML language WAP page, which acts as a charging authorization form, and sends the related data to the
30 push-proxy server 5. The title and price of the service in question appear on the Web page. In addition, the page has a field that allows an accept or reject reply to be selected.

- 5 205) The push-proxy server 5 sends the data it received in operation 204 to the customer's mobile station 1. The WAP browser of the mobile station shows the charging authorization form embodied as a WAP page on the display of the mobile station 1.
- 10 206) The customer selects the 'accept' alternative on the charging authorization form and uses the WAP browser of their mobile station 1 to send the form back to the service provider. As a result of this the data concerning the form is transmitted to the WAP gateway server 4.
- 15 207) The WAP gateway server 4 interprets the data it received in operation 206 and sends the data relating to billing to the mobile operator's billing system 3. The billing system 3 records the data it receives and transfers the relevant charge to the customer's billing account. The customer is billed on the basis of the billing account. Different charges and related data can be itemized in the bill.
- 20 208) The WAP gateway server 4 interprets the data it received in operation 206 and sends the Web server 6 notification of the acceptance of the charging authorization form.
- 25 209) The Web server 6 sends the data required by the Web service ordered by the customer to the customer's computer 2, after which the customer can receive the service with the aid of the Web browser.

In the examples examined above, each charging transaction can be given an individual identifier, which can be used, for instance, to trace the transaction.

30 Embodiments of the invention, differing from those disclosed above, can also be contemplated. The equipment presented in the figures and examples are not the only technical means by which a embodiment of the invention can be implemented. An embodiment of the invention can be implemented by means of technologies and systems differing from the figures and examples.

The method can also be implemented without the registration stage shown in Figure 1. In that case, the method is implemented in a manner similar to that shown in Figure 2, without, however, carrying out the number comparison referred to in operation 204. In other words, a charging authorization form is sent to the mobile subscription whose subscriber number the customer gave through the Internet in operation 203. Such an embodiment is not to be recommended, it involves the risk of attempted misuse. Sending charging authorization forms to a customer, without the customer's prior consent, may also contravene local legal praxis.

The method can also be applied in such a way that the mobile station is used to call a specific number to carry out registration. The subscriber number of the customer's mobile subscription is then transmitted to the service provider's Web server, on the basis of the subscriber number of the incoming call.

The method according to the invention can also be implemented in such a way that the customer can use, for example, a mobile station operating with GSM technology, and which does not support WAP technology, but which supports SMS short message technology. In that case, registration can take place, for example, by sending an SMS short message to a specific number, by calling a specific number from the mobile subscription in question, or by completing a form in the website with the aid of the Web browser of the customer's computer. The charging authorization forms are in this case implemented in the form of SMS short messages. The customer is sent an SMS short message stating, for example, the title and price of the service in question. If the customer wishes, they can accept the charging authorization form by sending an SMS short message with a specific content to a predefined number. In a preferred embodiment, the customer accepts the charging authorization form by sending the SMS short message they have received unaltered to the number from which the SMS short message was sent to them. When using this embodiment, charging can take place by the customer being sent an SMS short message using the counter-charging principle, following the acceptance of the charging authorization form. The counter-charging principle means that the customer is sent an SMS short message, the reception of which is charged to the customer. Such a counter-charging principle is used in certain

information services provided by mobile operators, in which the customer receives information sent by means of an SMS short message, after having sent a specified-form SMS short message to a specific number.

- 5 The method according to the invention can also be implemented with the aid of USSD (Unstructured Supplementary Service Data) messages. For example, an electronic form can be sent and/or received in the form of, or with the aid of a USSD message.

- 10 The method can be accelerated in such a way that the Web server 6 loads data relating to the Web service subject to a charge, selected in operation 201, into a cache memory in connection with operation 201, in which case operation 209 can be carried out faster.

- 15 Joint operation of the method according to the invention and the billing system of the mobile operator can be implemented in several different ways. One way is to use so-called tickets to transmit the charging bases. The term ticket refers to a specified-form data packet containing information, such as time, price, and title of the service used relating to the transaction in question.

- 20 The method can also be applied to charging for other Internet services subject to a charge. The Internet services can be provided, not only through the Web, but also through, for example, FTP (file transfer protocol). In addition, Internet technology may develop to encompass new types of services or embodiments, to which the method according to the invention can be applied.

- 25 The invention can also be applied to charging for the provision of services subject to a charge, which are supplied through data networks other than the Internet.

- 30 The invention can also be applied in such a way that the customer uses connection and terminal devices differing from the examples, in place of the mobile station 1 and the computer 2.

The mobile operator can implement its billing in a manner differing from the example. The billing system can be outsourced, for example, so that a sub-contractor of the mobile

operator carries out the operations relating to billing. The data transmission between the WAP gateway server and the billing system can be implemented in various ways.

5 Some entity other than a mobile operator can also use or provide the method according to the invention.

After a successful charging authorization transaction, confirmation of the success of the transaction can also be sent to the customer. In that case, in solutions based on WAP technology, charging can take place, for example, when a confirmation is sent to the user's WAP terminal. Confirmations can be sent through the push-proxy gateway. This is possible, because the WAP push solutions of a GSM network can utilize short messages. Charging for a transaction can also be conveniently carried out using short messages based on counter-charging, and not only on charging for the outgoing short message or the GSM data call.

15

One possible operating environment for the invention is built on a GPRS (General Packet Radio Service) network. In this environment, the same solution as described above can be applied in principle. However, in this case the IP address of the terminal of the GPRS network replaces the A subscriber number of the conventional GSM network. Charging can then also take place on a transaction basis. If the service is implemented using GPRS technology, the transactions relating to the charging authorization events of the service can be carried out more rapidly, and, from the customer's point of view, more easily. The method can be implemented most advantageously with the aid of GPRS technology.

25

In the embodiments of the invention, event log databases, for example, can be installed in connection with the various equipment, such as the push-proxy gateway, or the WAP gateway. Information, for example, on the transactions or events processed by the equipment in question, can be recorded in the databases. This information can be used, for example, for reporting, monitoring, and/or system supervision.

30

The following provides some explanatory definitions of the terms used in this application:

In this application, the term data network refers to a system for transferring digital or analogue information from at least one first physical point to at least one second physical point. The data networks referred to in this application include the Internet, an extranet
5 or intranet, a public or private telephone or mobile network, or, for instance, an ATM network.

In this application, the term data network services, such as Internet services, refers to the making available or supplying of, for example, content, such as text, images, video,
10 audiovisual material, combinations of these, or other intangible goods, or the supply of tangible goods with the aid of a data, data communications, or telecommunications network, such as the Internet.

In this application, the term service provider refers to an entity that provides data
15 network services.

In this application, the term customer refers to an entity to which data network services are offered, supplied, sold, or distributed, or an entity to which, in other ways, content, such as text, images, sound, video presentations, audiovisual material, combinations of
20 these, or tangible goods are provided, supplied, sold, or distributed. The customer is not necessarily the end user.

In this application, the term terminal refers to a device, by means of which data to be received from a data, data communications, or telecommunications network, or from a
25 connection device, can, in one way or another, be exploited and/or by means of which it is possible to send data to a data, data communications, or telecommunications network, either directly or with the aid of a connection device. Terminals are, for instance, mobile stations (such as mobile stations supporting GSM, UMTS, WAP, and/or GPRS technology), computers, embedded systems, or a telephone. A modem is an example of a
30 connection device.

In this application, the term charging authorization transaction refers to a transaction, in which the customer authorizes a service provider or a co-operating partner of a service

provider to charge the customer a certain sum of money.

5 In this application, the term registration, refers to a customer giving or stating their identity datum or identity data to some entity. The giving of some authorization or authorizations and agreeing to be bound by some rules may also be connected with registration.

10 In this application, the term electronic form refers to a data totality, which can be presented, for example, graphically by means of some terminal, so that with its aid or on its basis, the customer can authorize some charging to take place.

Claims:

1. A method for carrying out charging in a data network service subject to a charge, in which

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- a data network address is received from the direction of the customer, for the sending of data relating to a data network service, and

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- data relating to the data network service is sent to the customer at the customer's notified data network address,

characterized in that, in the method

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- a telephone network address is received from the direction of the customer, for carrying out charging authorization,

- an electronic form is sent to the customer at the customer's notified telephone network address, for giving charging authorization,

20

- an accepted electronic form, by means of which the customer authorizes the charging of a specific sum, is received from the customer, and

- the customer is charged on the basis of the received electronic form.

25

2. A method according to Claim 1, in which data relating to the data network service and/or data relating to the carrying out of charging for the data network service is transmitted with the aid of a data network or data networks.

30

3. A method according to either Claim 1 or 2, in which the data network service is a service supplying tangible or intangible goods and in which a charge is made for supplying tangible or intangible goods.

4. A method according to either Claim 1 or 2, in which the data network service is a

service supplying goods by means of a data network, and in which a charge is made for the data supplied, the content of the data supplied, or for a service offered or supplied with the aid of the data supplied.

5 5. A method according to any of Claims 1 - 4, **characterized** in that a sum according to the electronic form is added to the bill of the customer in question.

6. A method according to any of Claims 1 - 4, **characterized** in that a sum according to the electronic form is debited from the account of the customer in question.

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7. A method according to any of Claims 1 - 6, **characterized** in that the electronic form is sent and/or received in WML format.

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8. A method according to any of Claims 1 - 6, **characterized** in that the electronic form is sent and/or received in HTML format.

9. A method according to any of Claims 1 - 8, **characterized** in that the electronic form is sent and/or received in the form of, or with the aid of an SMS short message.

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10. A method according to any of Claims 1 - 9, **characterized** in that the electronic form is sent and/or received in the form of, or with the aid of a USSD (Unstructured Supplementary Service Data) message.

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11. A method according to any of Claims 1 - 10, **characterized** in that the charge is billed by means of the mobile operator's mobile services billing system and/or the charge is billed to the customer by means of a mobile station bill.

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12. A method according to any of Claims 1 - 11, **characterized** in that registration information, such as identification information and/or contact information, is received from the customer, in order to register the customer for the use of the charging method.

13. A method according to Claim 12, **characterized** in that the telephone network address received from the direction of the customer is compared with the received

registration information, before the electronic form is sent.

14. A method according to any of Claims 1 - 13, **characterized** in that the telephone network address is the subscriber number of a mobile subscription.

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15. A method according to any of Claims 1 - 13, **characterized** in that the telephone network address is the IP (Internet Protocol) address of a GPRS (General Packet Radio Service) mobile subscription.

10

16. A method according to any of Claims 1 - 15, **characterized** in that data relating to the carrying out of charging for the data network service is transmitted with the aid of a telephone or mobile network.

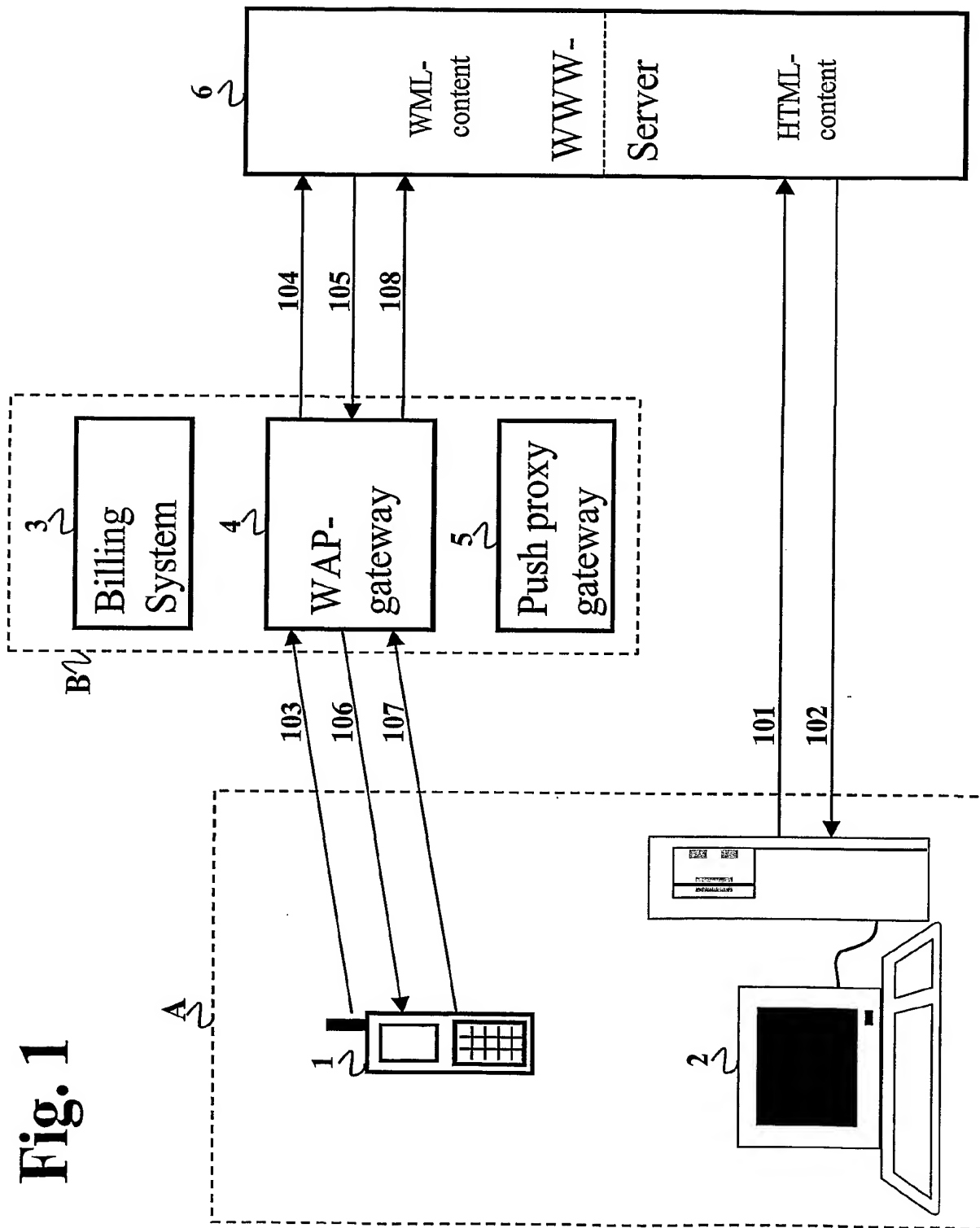
15

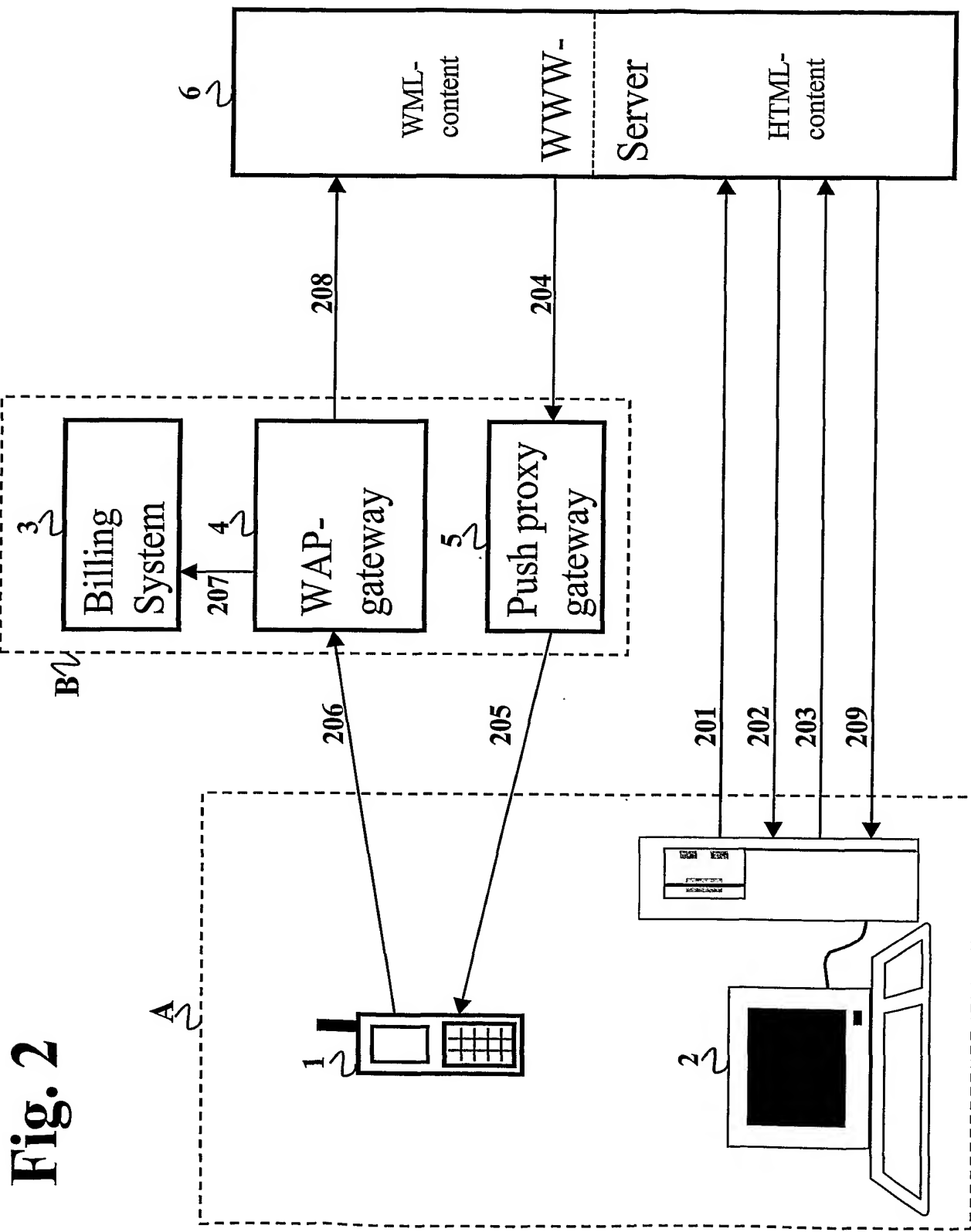
17. A method according to any of Claims 1 - 16, **characterized** in that the data network address, to which data relating to the data network service is sent, is an IP (Internet Protocol) address.

20

18. A method according to any of Claims 1 - 17, **characterized** in that the data relating to the data network service contains information on tangible or intangible goods that are supplied through other means.

Fig. 1





INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 01/00598

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: G06F 17/60, G06F 1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | WO 0025245 A1 (RECEIPT.COM, INC.), 4 May 2000 (04.05.00), page 3, line 16 - line 28 -- | 1-18 |
| P,X | WO 0039958 A1 (SONERA OYJ), 6 July 2000 (06.07.00) -- | 1-18 |
| A | WO 9913422 A1 (NEELY,R.A.), 18 March 1999 (18.03.99) -- ----- | 1-18 |

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "B" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

24 October 2001

25 -10- 2001

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/FI01/00598

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The invention according to the independent claim 1 is considered not to involve an inventive step. The application therefore lacks unity a posteriori since many of dependent claims that are referring directly to claim 1 do not have any special technical features in common. However the entire application has still been searched without effort justifying any additional fees.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims: it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT
Information on patent family members

01/10/01

International application No.

PCT/FI 01/00598

| Patent document cited in search report | | | Publication date | Patent family member(s) | | | Publication date |
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